

## Adaptive Wireless Transceiver, Phase I

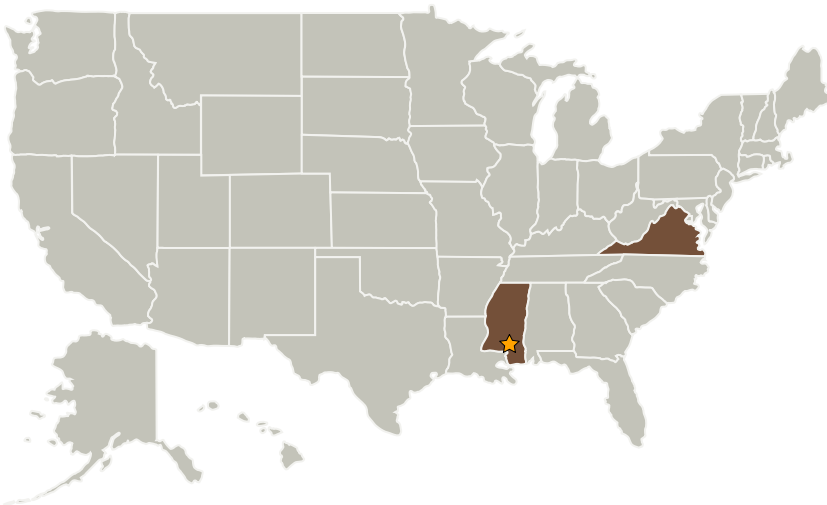
Completed Technology Project (2004 - 2005)



## Project Introduction

Wireless technologies are an increasingly attractive means for spatial data, input, manipulation, and distribution. Mobitrum is proposing an innovative Adaptive Wireless Transceiver, which is targeted for NASA's Earth Science applications for field personnel and robotic platforms to interface with various wireless sensor networks, in real time, ingest data sequentially from a variety of input sensors, provide initial field verification of data and distribute the data to various nodes and servers at collection, processing, and decision sites. This effort addresses important technology gap for interfacing with various wireless sensor networks and transmitting/receiving data over long distances. This effort will include: (1) Design of the high-level system architecture of the adaptive wireless interface that employs model-based reasoning to achieve a specified level of competence in radio-related domains, (2) Design of the adaptive wireless module, and (3) Develop rules, procedures, software algorithms, and techniques through modeling and simulation for designing an adaptive wireless module. The proposed enabling technology will provide NASA an effective wireless device for Earth science, data relay, and other situational awareness.

## Primary U.S. Work Locations and Key Partners



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## Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Organizational Responsibility	1
Project Management	2
Technology Areas	2

## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Center / Facility:**

Stennis Space Center (SSC)

**Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Stennis Space Center(SSC)	Lead Organization	NASA Center	Stennis Space Center, Mississippi
Mobitrum Corporation	Supporting Organization	Industry	McLean, Virginia

## Primary U.S. Work Locations

Mississippi	Virginia
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## Project Management

**Program Director:**

Jason L Kessler

**Program Manager:**

Carlos Torrez

**Principal Investigator:**

Ray Wang

## Technology Areas

**Primary:**

- TX02 Flight Computing and Avionics
  - └ TX02.1 Avionics Component Technologies
    - └ TX02.1.8 Wireless Avionics Technologies